JOURNAL OF ELECTROANALYTICAL CHEMISTRY

Vol. 369 Nos. 1 and 2 May 16, 1994

CONTENTS

Review

The interaction of formic acid with transition metal surfaces, studied in ultrahigh vacuum
M.R. Columbia and P.A. Thiel (Ames, IA, USA) 1

Regular papers

New methods for the application of an alternating current. Part 3. Application of combined direct and alternating currents at standard electrodes
A. Molina, F. Martínez-Ortiz, M. López-Tenés and C. Serna (Murcia, Spain) 15

Direct and through-film dissolution of Ni during anodic polarization in aqueous HF media
M. Noel and S. Chidambaram (Karaikudi, India) 25

In-situ photoacoustic investigation of thallfum underpotential deposition on polycrystalline copper electrodes
D.A. Berg, V.A. VanderNoot, R.G. Barradas and E.P.C. Lai (Ottawa, Ont., Canada) 33

The influence of diffusion coefficients in a catalytic electron transfer mechanism on linear sweep voltammetric and potential step chronoamperometric measurements
D. Occhialini, S.U. Pedersen and K. Daasbjerg (Aarhus, Denmark) 39

The reactions of cystine at mercury electrodes
M. Heyrovský, P. Mader (Prague, Czech Republic), V. Veselá and M. Fedurco (Košice, Slovak Republic) 53

Nucleation and growth of Prussian Blue films on glassy carbon electrodes
C. Kuhnhardt (Berlin, Germany) 71

Direct electrochemical reactions of cytochrome *c* at iodide-modified electrodes
T. Lu, X. Yu, S. Dong (Changchun, China), C. Zhou, S. Ye and T.M. Cotton (Ames, IA, USA) 79

Electrochemical and spectroscopic characterization of polyalkylenedioxythiophenes
M. Dietrich, J. Heinze (Freiburg, Germany), G. Heywang and F. Jonas (Leverkusen, Germany) 87

Phenomena limiting the rate of electroreduction of cyanide silver complexes at low electrode polarizations
G. Baltrunas, V. Drunga and D. Svedas (Vilnius, Lithuania) 93

Reproducibility in the electrodeposition of conducting polymers—a parametric study of poly-(3-methylthiophene)
U. Barsch, F. Beck (Duisburg, Germany), G. Hambitzer (Pfinztal, Germany), R. Holze, J. Lippe (Oldenburg, Germany) and I. Stassen (Pfinztal, Germany) 97

Solvent effect on interfacial capacitance of metal electrodes
G. Jarząbek and J. Stafiej (Warsaw, Poland) 103

Contact glow discharge electrolysis: a study of its chemical yields in aqueous inert-type electrolytes
S.K. Sengupta and O.P. Singh (Varanasi, India) 113

Electron transfer properties of the p-benzoquinone–InP electrode systems
K.P. Quinlan (Bedford, MA, USA) 121

A quantum chemistry description of carbon monoxide and water absorbates on single-crystal rhodium and platinum clusters
P. Paredes Olivera, G. Estiu, E.A. Castro and A.J. Arvia (La Plata, Argentina) 131

Thin-layer electrochemical studies of the oxidative underpotential deposition of sulfur and its application to the electrochemical atomic layer epitaxy deposition of CdS
L.P. Colletti, D. Teklay and J.L. Stickney (Athens, GA, USA) 145

The use of ultramicroelectrodes for the determination of diffusion coefficients
M.B. Moressi and H. Fernández (Córdoba, Argentina) 153

Kinetic studies of the effects of H_2S impurity on hydrogen oxidation in molten $(Li + K)CO_3$
I. Uchida, S. Ohuchi and T. Nishina (Sendai, Japan) 161

Electrocatalytic reduction of dioxygen by an electrochemically polymerized flavin adenine dinucleotide film
Q. Chi and S. Dong (Jilin, China) 169

Laser activation of carbon microdisk electrodes: surface oxide effects on $Ru(NH_3)_6^{2+/3+}$ kinetics
R.K. Jaworski and R.L. McCreery (Columbus, OH, USA) 175

Structural effects on CO_2 reduction at Pt single-crystal electrodes. Part 1. The Pt(110) surface
A. Rodes, E. Pastor and T. Iwasita (Bonn, Germany) 183

Electrochemical quartz crystal microbalance investigation of the ion exchange mechanism in the first oxidation step of polyaniline in $HClO_4$
M.C. Miras, C. Barbero, R. Kötz and O. Haas (Villigen, Switzerland) 193

Adsorption of CO and CO_2 on polycrystalline Pt at a potential in the hydrogen adsorption region in phosphate buffer solution: An in situ Fourier transform IR study
S. Taguchi, T. Ohmori, A. Aramata and M. Enyo (Sapporo, Japan) 199

Chronopotentiometric response with programmed current when the reactant and/or product are adsorbed at spherical and planar electrodes
M.-L. Alcaraz (Murcia, Spain) 207

The pH-dependent adsorption of *m*-nitrobenzene sulphonic acid on a thermally prepared Ti/TiO_2 electrode
C. Ravichandran, M. Noel, S. Thangavelu and P.N. Anantharaman (Karaikudi, India) 217

On the multiple states of gold deposited onto polycrystalline platinum substrates
I. Bakos and S. Szabó (Budapest, Hungary) 223

Quantum chemical study of the adsorption of an H_2O molecule on an uncharged mercury surface
R.R. Nazmutdinov, M. Probst and K. Heinzinger (Mainz, Germany) 227

TDS study of the anodic layer on emersed polycrystalline platinum
R. Dalbeck, H.W. Buschmann and W. Vielstich (Bonn, Germany) 233

Short communications

Electrochemical reduction of carbon dioxide on hydrogen-storing materials: Part 4. Electrochemical behavior of the Pd electrode in aqueous and nonaqueous electrolyte
K. Ohkawa, Y. Noguchi, S. Nakayama, K. Hashimoto and A. Fujishima (Tokyo, Japan) 247

Photoelectrochemical epitaxial growth of Co oxides on TiO_2 and $SrTiO_3$ single-crystal electrodes
Y. Matsumoto, M. Fujisue, T. Sasaki, J. Hombo and M. Nagata (Kumamoto, Japan) 251

Preliminary notes

Electrolytic partial fluorination of organic compounds. Part IX. Selective anodic monofluorination of hydrazones
T. Fuchigami, M. Sano (Yokohama, Japan) and K. Iio (Ibaraki, Japan) 255

Adsorption of octadecanol from the gas|solution interface onto an electrified gold|solution interface
D. Bizzotto (Guelph, Ont., Canada), J.J. Noël (Toronto, Ont., Canada) and J. Lipkowski (Guelph, Ont., Canada) 259

Direct electron transfer reaction of hemoglobin at the bare silver electrode
G. Li, X. Liao, H. Fang and H. Chen (Nanjing, China) 267

On the adsorption of acetylene on gold in acid media studied by DEMS
V.M. Schmidt (Jülich, Germany) and E. Pastor (Bonn, Germany) 271

Ion transfer across the water/nitrobenzene interface facilitated by ion association and precipitation
B. Hundhammer, T. Solomon (Addis Ababa, Ethiopia), S.K. Dhawan, T. Zerihun (Leuna-Merseburg, Germany) and M. Tessema (Addis Ababa, Ethiopia) 275

A new polycationic hydrogel for three dimensional enzyme wired modified electrodes
E.J. Calvo, C. Danilowicz and L. Diaz (Buenos Aires, Argentina) 279

Investigations of Br^- adsorption at the Au(111) electrode in the presence of underpotentially deposited copper atoms
Z. Shi and J. Lipkowski (Guelph, Ont., Canada) 283

A kinetic equation for minority carriers at the surface of semiconductor electrodes
S. Ramakrishna (Bangalore, India) and S.K. Rangarajan (Madras, India) 289

Book reviews 293

Author index 295

Subject index 297